

CLAIMS

1. A method of producing nanoparticles using a continuous flow miniaturised reaction vessel.
- 5 2. A method as claimed in claim 1 wherein the reaction volume of the reaction vessel is from 1×10^{-5} to 1×10^{-11} litres.
- 10 3. A method as claimed in claim 1 or claim 2 characterised in that a reactant is continuously supplied to the reaction vessel and the nanoparticles produced thereby continuously removed therefrom.
- 15 4. A method as claimed in any one of claims 1 to 3 for the production of cadmium sulphide nanoparticles comprising combining an aqueous solution of a cadmium salt and a sulphide salt.
5. A method as claimed in any one of claims 1 to 4 wherein a stabiliser is added after the formation of the nanoparticles.
- 20 6. A method as claimed in any one of claims 1 to 5 wherein the nanoparticles produced by the method are monodisperse.
7. A method as claimed in any one of claims 1 to 5 wherein a spatial variation in the reaction conditions is established within the reaction vessel.
- 25 8. A method as claimed in claim 7 wherein the reaction condition varied is selected from one or more of reagent concentration, pH, temperature, or intensity of optical illumination provided at varying concentrations.
- 30 9. A method as claimed in claim 7 or claim 8 wherein the nanoparticles produced

are of varying sizes.

10. A nanoparticle produced by the method of any one of claims 1 to 9.
- 5 11. A miniaturised nanoparticle production device comprising one or more inlets, a reaction chamber and one or more outlets.
12. A miniaturised nanoparticle production device as claimed in claim 12 arranged to produce a variation in the reaction conditions across the reaction vessel.
- 10 13. A miniaturised nanoparticle production device as claimed in claim 12 arranged to produce a variation in one or more of reagent concentration, pH, temperature, or intensity of optical illumination.